0489./0889

RAW SEQUENCE LISTING ERROR REPORT



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:	10/014,099E
Source:	OIPE
Date Processed by STIC:	4/3/2003
_	

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION OUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN ASSISTANCE: e-mail: robert.wax @ uspto.gov Telephone: 703-306-4119

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

http://www.uspto.gov/web/offices/pac/checker

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

- 1. EFS-Bio (http://www.uspto.gov/ebc/efs/downloads/documents.htm, EFS Submission User Manual ePAVE)
- 2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202 EFFECTIVE MAY 1, 2003 (via USPS): Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
- 3. Hand Carry directly to:
 - U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
 - U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
- Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 04/01/2003



OIPE

RAW SEQUENCE LISTING DATE: 04/03/2003 PATENT APPLICATION: US/10/014,099E TIME: 14:43:10

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF4\04032003\J014099E.raw

```
5 <110> APPLICANT: KUEHN, Ralf
      6
             FELDER, Susanne
     7
             SCHWENK, Frieder
             KUETER-LUKS, Birgit
     8
     9
             FAUST, Nicole
     11 <120> TITLE OF INVENTION: Modified Recombinase
     13 <130> FILE REFERENCE: 012787wo/JH/ml
                                                         pp 13-5,7-8
   > 15 <140> CURRENT APPLICATION NUMBER: US/10/014,099E
   > 16 <141> CURRENT FILING DATE: 2003-03-31
     18 <160> NUMBER OF SEQ ID NOS: 108
     20 <170> SOFTWARE: PatentIn Ver. 2.1
ERRORED SEQUENCES
                                                            Does Not Comply
                                                        Corrected Diskette Needed
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1404 <210> SEQ ID NO: 23 1405 <211> LENGTH: 620 1406 <212> TYPE: PRT 1406 <212> TYPE: PRT
1407 <213> ORGANISM: Artificial Sequence
W--> 1408 (220) FEATURE: Insut C2207 This numeric identifier is MANDATORY wherever
1408 <223> OTHER INFORMATION: Description of Artificial Sequence: DNA sequence (2217, (2227, 1409 (coding for fusion protein C31-Int(CNLS) (E) > 1411 <400> SEQUENCE: 23 1412 Met Thr Gln Gly Val Val Thr Gly Val Asp Thr Tyr Ala Gly Ala Tyr 1413 1 5 1413 1 5 10 15

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1418 Thr Gln Arg Ser Ala Asn Glu Asp Lys Ala Ala Asp Leu Gln Arg Glu

1419 35 40 45

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1422 50 55 60

1424 Ala Pro Gly Thr Ser Ala Phe Gly Thr Ala Gly Arg Pro Gly Phe Gly

1424 Ala Pro Gly Thr Ser Ala Phe Gly Thr Ala Gly Arg Pro Gly Phe Gly 10 1424 Ala Pro Gly Thr Ser Ala Phe Gly Thr Ala Glu Arg Pro Glu Phe Glu 70 75 1427 Arg Ile Leu Asn Glu Cys Arg Ala Gly Arg Leu Asn Met Ile Ile Val 1428 85 90 1430 Tyr Asp Val Ser Arg Phe Ser Arg Leu Lys Val Met Asp Ala Ile Pro 1431 100 105 110 1433 Ile Val Ser Glu Leu Leu Ala Leu Gly Val Thr Ile Val Ser Thr Gln 1434 115 120 125 1436 Glu Gly Val Phe Arg Gln Gly Asn Val Met Asp Leu Ile His Leu Ile 1437 130 135 140

155

1439 Met Arg Leu Asp Ala Ser His Lys Glu Ser Ser Leu Lys Ser Ala Lys

150

1440 145

Input Set : A:\pto.vsk.txt

		_	_	~ 1	_	_	_	~ 3	_		_		0.1	_		-1
1442	lle	Leu	Asp	Thr		Asn	Leu	GIn	Arg		Leu	Gly	GLy	Tyr		GLy
1443	0.1	-	7.7	ъ	165	~ 1	7.1	~ 1	-	170		0.1	mı	+	175	-1
1445	GLY	гàг	Ата		Tyr	GLY	Pne	GLu		vaı	Ser	GIU	Thr		GIU	тте
1446	mı .	7	70 -	180	.	34-1	*7 - 7		185		~ 1 .	70	T	190	7.7	
1448	Thr	Arg		GTA	Arg	Met	val		Val	Val	шe	Asn		Leu	Ala	Hls
1449	•	mı.	195	_	-	m1	~ 1	200	701	0 1	D 1	0.1	205	<u>.</u>		
1451	ser		Thr	Pro	Leu	Thr		Pro	Pne	Glu	Phe		Pro	Asp	vaı	TTE
1452	70	210	m .	m .		C 1	215	.	mı .		.	220	.	Б.	701-	-
1454		Trp	Trp	Trp	Arg		тте	ьуs	Thr	HIS		ніѕ	Leu	Pro	Pne	
1455		G 1.	.	G1 .	7.7 -	230	T1 .	r1 ' -	ъ	01.	235	~ 1	m)	61		240
1457	Pro	СТА	ser	GIN		Ата	TTE	HIS	Pro		ser	тте	Thr	СТА		Cys
1458	T	71	Mat	7	245	7. ~ ~	- ות	17-1	D	250	7\	C1	C1	mb	255	C1
1460	гуз	ALG	Mec	260	Ата	ASP	нта	Val	265	TIIT	ALG	атй	GIU	270	TTE	GTA
1461 1463	Tura	T 110	mh.∽		Cor	Cox	71.	Trr		Dro	ת 1 ת	Th.	\/ a 1		7 ~~	тіо
1464	пло	пЛЭ	275	на	Ser	Ser	нта	280	ASP	FIO	MIG	TIIT	285	Mec	ALG	TTE
1466	T.eur	Δra		Pro	Δra	Tle	Δla		Pho	Δl =	Δ 1 =	Glu		Tla	Tur	Lve
1467	пси	290	лър	110	mrg	110	295	Ory	1110	ALG	лта	300	Val	110	ıyı	пуз
1469	Lvs		Pro	Asp	Glv	Thr		Thr	Thr	Lvs	Tle		Glv	Tur	Ara	Tle
1470	_	2,5	110	тър	O ₊ y	310	110	1111		Lyo	315	O L u	O±y	- 1 -	111.9	320
1472		Ara	Asp	Pro	Tle		Leu	Ara	Pro	Val		Len	Asp	Cvs	Glv	
1473		5	F		325			5		330	0			- 1-	335	
1475	Ile	Ile	Glu	Pro		Glu	Trp	Tvr	Glu		Gln	Ala	Trp	Leu		Glv
1476				340			-	-	345				•	350	•	_
1478	Arg	Gly	Arg	Gly	Lys	Gly	Leu	Ser	Arg	Gly	Gln	Ala	Ile	Leu	Ser	Ala
1479	_	_	355	_	_	-		360		-			365			
1481	Met	Asp	Lys	Leu	Tyr	Cys	Glu	Cys	Gly	Ala	Val	Met	Thr	Ser	Lys	Arg
1482		370					375					380				
1484	Gly	Glu	Glu	Ser	Ile	Lys	Asp	Ser	Tyr	Arg	Cys	Arg	Arg	Arg	Lys	Val
1485						390					395					400
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1491				420					425					430		
1493	Arg	His		Glu	Gly	Asp	Glu		Thr	Leu	Ala	Leu		Trp	Glu	Ala
1494	- 1	_	435	D 1	0.3	_	_	440	~1		_	~ `	445	_	~ 1	~ 1
1496	Ala		Arg	Phe	GLy	rys		Thr	GLu	Ala	Pro		Lys	Ser	GLY	Glu
1497	.	450	T	.		20 7	455	_	. .		7.1	460		70.7	-	~1
1499	_	Ala	Asn	Leu	vaı		GLu	Arg	Ala	Asp		Leu	Asn	Ата	Leu	
1500		т	m	01	70	470	70 T .	7.7 -	G1 .	7 . 1 -	475	70	03	Б	TT - 3	480
1502	GIU	Leu	Tyr	GIU		Arg	ALA	Ата	GLY		Tyr	Asp	GIY	Pro		GTA
1503	7 ~~~	T	114.0	Dha	485	τ	C1	C1 ~	7.1.	490	τ	mb so	T 0.13	7	495	C1 ~
1505 1506	Arg	гуѕ	nls	500	Arg	ьys	GIN	GTII	505	ATA	ьeu	ınr	ьeu	Arg 510	GIN	GTU
1508	G1 v	7/1 ~	G1 13		7/ ~~	T 011	7/1 ~	C1		Cl.	7/1 ~	7/1 ~	61.5		Dro	Tuo
1509	о т у	АТА	515	GIU	ALG	пеп	ита	520	пеп	GIU	нта	ліа	525	AId	210	пйэ
1511	Len	Pro		Aen	Cln	Trn	Phe		ىداي	Δεν	Δla	Δer		Δος	Dro	Th.
1512	ъсu	530	neu	nop	3711	111	535	EIO	GIU	nop	лта	540	лта	nsp	ELU	111L
1514	Glv		T.vc	Ser	Trn	Trn		Ara	Δla	Ser	Val		Asn	T.ve	Δra	Val
1714	OIY	110	L) y S	ŮC1	115	111	от у	тту	mad	DCI	val	113P	213P	цyз	nr y	VUL

Input Set : A:\pto.vsk.txt

```
550
     1515 545
                                                 555
     1517 Phe Val Gly Leu Phe Val Asp Lys Ile Val Val Thr Lys Ser Thr Thr
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                                             570
     1520 Gly Arg Gly Gln Gly Thr Pro Ile Glu Lys Arg Ala Ser Ile Thr Trp
     1521
                                         585
     1523 Ala Lys Pro Pro Thr Asp Asp Glu Asp Asp Ala Gln Asp Gly Thr
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     3318 <212> TYPE: PRT
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     3333 Tyr Leu Lys Met Lys Leu Gly Val Val Gly Asp Thr Pro Leu Gln Ala
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     3336 Asp Pro Pro Gly Phe Glu Pro Gly Thr Ser Gly Ser Gly Gly Lys
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                                                 75
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     3342 Tyr Ala Thr Asp Gly Asn Ile Lys Ala Phe Tyr Asn Tyr Leu Met Asn
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                                         105
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     3351 Phe Ala Arg Phe Leu Ala Ser Arg Asn Ile Ile His Asp Glu Phe Ala
     3352 145
                             150
                                                 155
     3354 Asp Lys Ile Leu Lys Ala Val Lys Val Lys Lys Ala Asn Ala Asp Ile
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     3357 Tyr Ile Pro Thr Leu Glu Glu Ile Lys Arg Thr Leu Gln Leu Ala Lys
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     3363 Gly Val Arg Leu Ser Glu Ile Leu Lys Val Leu Lys Glu Pro Glu Arg
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                                 215
     3366 Asp Ile Cys Gly Asn Asp Val Cys Tyr Tyr Pro Leu Ser Trp Thr Arg
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                                                 235
     3369 Gly Tyr Lys Gly Val Phe Tyr Val Phe His Ile Thr Pro Leu Lys Arg
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RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/014,099E

DATE: 04/03/2003
TIME: 14:43:10

Input Set : A:\pto.vsk.txt

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     3375 Asp Ala Ile Ala Ile Lys Tyr Phe Arg Lys Phe Val Ala Ser Lys Met
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     3378 Ala Glu Leu Ser Val Pro Leu Asp Ile Ile Asp Phe Ile Gln Gly Arg
     3379
                                  295
     3381 Lys Pro Thr Arg Val Leu Thr Gln His Tyr Val Ser Leu Phe Gly Ile
                                                  315
                              310
     3384 Ala Lys Glu Gln Tyr Lys Lys Tyr Ala Glu Trp Leu Lys Gly Val
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     3526 <212> TYPE: PRT
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     3528 <223> OTHER INFORMATION: Description of Artificial Sequence: DNA sequence
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                                               10
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             20
                                          25
     3538 Phe Leu Gly Ser Ser Leu Gln Ala Gln Gln Gln Arg Glu His Met Arg
     3539 35
                                       40
     3541 Thr Lys Val Leu Gln Asp Leu Asp Lys Val Asn Leu Arg Leu Lys Ser .
                                   55
              50
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                               70
     3547 Arg Ala Thr Leu Pro Ile Lys Pro Gly Asp Lys Asp Thr Asn Gly Thr
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                          85
     3550 Gly Arg Lys Gln Tyr Asn Leu Ser Leu Asn Ile Pro Ala Asn Leu Asp
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                                          105
     3553 Gly Leu Lys Thr Ala Glu Glu Glu Ala Tyr Glu Leu Gly Lys Leu Ile
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                                      120
     3556 Ala Arg Lys Thr Phe Glu Trp Asn Asp Lys Tyr Leu Gly Lys Glu Ala
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     3559 Thr Lys Lys Asp Ser Gln Thr Ile Gly Asp Leu Leu Glu Lys Phe Ala
                              150
                                                  155
     3562 Glu Glu Tyr Phe Lys Thr His Lys Arg Thr Thr Lys Ser Glu His Thr
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                         165
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                                          185
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                                      200
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                                 215
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     3577 Arg Asn Ser Arg Asn Ile Pro Thr Asp Ala Glu Ile Leu Ser Gly Ile
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Input Set : A:\pto.vsk.txt

Output Set: N:\CRF4\04032003\J014099E.raw

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                                      280
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                                                  315
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                                                                  335
     3595 Trp Ile Asp Glu Phe Asp Leu Arg Asn Pro Lys Tyr Leu Glu Met Leu
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                                          345
     3598 Ala Thr Ala Ile Ser Lys Lys Asp Lys Thr Asn His Ala Glu Ile Thr
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                                                      380
     3604 Phe Lys Pro Tyr Asp Leu Arg His Ala Trp Ala Ile Arg Ala His Ile
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                                                  395
     3607 Leu Gly Ile Pro Ile Lys Ala Ala Ala Asp Asn Leu Gly His Ser Met
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                                              410
     3610 Gln Val His Thr Gln Thr Tyr Gln Arg Trp Phe Ser Leu Asp Met Arg
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                                          425
                                                              430
     3613 Lys Leu Ala Ile Asn Gln Ala Leu Thr Lys Arg Asn Glu Phe Glu Val
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                                      440
                                                          445
     3616 Ile Arg Glu Glu Asn Ala Lys Leu Gln Ile Glu Asn Glu Arg Leu Arg
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                                                                        This is not a
     3730 Z13 ORGANISM: Artificial Sequence
W--> 3731 <220 FEATURE: W-SUT
     3731 <223> OTHER INFORMATION: Description of Artificial Sequence: DNA sequence
          Cooding for fusion protein NLS-Ssv
k -> 3734 <400> SEQUENCE: 69
                                                                                Phose conect
any sequences
slowing this
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     3736 1
                                                                   15
                                              10
     3738 Tyr Gly Asp Tyr Ile Leu Arg Glu Arg Lys Gly Arg Tyr Tyr Val Tyr
     3739
                      2.0
                                           25
     3741 Lys Leu Glu Tyr Glu Asn Gly Glu Val Lys Glu Arg Tyr Val Gly Pro
     3744 Leu Ala Asp Val Val Glu Ser Tyr Leu Lys Met Lys Leu Gly Val Val
                                   55
     3747 Gly Asp Thr Pro Leu Gln Ala Asp Pro Pro Gly Phe Glu Pro Gly Thr
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                                                   75
     3750 Ser Gly Ser Gly Gly Gly Lys Glu Gly Thr Glu Arg Arg Lys Ile Ala
                           85
                                               90
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Input Set : A:\pto.vsk.txt

3753 3754	Leu	Val	Ala	Asn 100	Leu	Arg	Gln	Tyr	Ala 105	Thr	Asp	Gly	Asn	Ile 110	Lys	Ala
3756 3757	Phe	Tyr	Asn 115	Tyr	Leu	Met	Asn	Glu 120	Arg	Gly	Ile	Ser	Glu 125	Lys	Thr	Ala
3759 3760	Lys	Asp 130	Tyr	Ile	Asn	Ala	Ile 135	Ser	Lys	Pro	Tyr	Lys 140	Glu	Thr	Arg	Asp
3762 3763		Gln	Lys	Ala	Tyr	Arg 150	Leu	Phe	Ala	Arg	Phe 155	Leu	Ala	Ser	Arg	Asn 160
3765 3766	Ile	Ile	His	Asp	Glu 165	Phe	Ala	Asp	Lys	Ile 170	Leu	Lys	Ala	Val	Lys 175	Val
3768 3769	Lys	Lys	Ala	Asn 180	Ala	Asp	Ile	Tyr	Ile 185	Pro	Thr	Leu	Glu	Glu 190	Ile	Lys
3771 3772	Arg	Thr	Leu 195	Gln	Leu	Ala	Lys	Asp 200	Tyr	Ser	Glu	Asn	Val 205	Tyr	Phe	Ile
3774 3775	Tyr	Arg 210	Ile	Ala	Leu	Glu	Ser 215	Gly	Val	Arg	Leu	Ser 220	Glu	Ile	Leu	Lys
3777 3778		Leu	Lys	Glu	Pro	Glu 230	Arg	Asp	Ile	Cys	Gly 235	Asn	Asp	Val	Cys	Tyr 240
3780 3781	Tyr	Pro	Leu	Ser	Trp 245	Thr	Arg	Gly	Tyr	Lys 250	Gly	Val	Phe	Tyr	Val 255	Phe
3783 3784	His	Ile	Thr	Pro 260	Leu	Lys	Arg	Val	Glu 265	Val	Thr	Lys	Trp	Ala 270	Ile	Ala
3786 3787	Asp	Phe	Glu 275	Arg	Arg	His	Lys	Asp 280	Ala	Ile	Ala	Ile	Lys 285	Tyr	Phe	Arg
3789 3790	Lys	Phe 290	Val	Ala	Ser	Lys	Met 295	Ala	Glu	Leu	Ser	Val 300	Pro	Leu	Asp	Ile
3792 3793		_	Phe	Ile	Gln	Gly 310	Arg	Lys	Pro	Thr	Arg 315	Val	Leu	Thr	Gln	His 320
3795 3796	Tyr	Val	Ser	Leu	Phe 325	Gly	Ile	Ala	Lys	Glu 330	Gln	Tyr	Lys	Lys	Tyr 335	Ala
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<211> 840
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:
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tgtggaaagt ccccaggctc cccagcaggc agaagtatgc aaagcatgca tctcaattag 180
teageaacea tagteeegee ectaacteeg eccateeege ecctaactee geeeagttee 240
geocattete egeoceatgg etgaetaatt ttttttattt atgeagagge egaggeegee 300
teggeetagg aacagtegae gacactgeag agacetaett cactaacaac eggtacagtt 360
cgtggaccag atgggtgagg tggagtacgc gcccggggag cccaaaggtt accccagttg 420
gggcactact cccgaaaacc gcttctggat ccataacttc gtatagcata cattatacga 480
agttataccg ggccaccatg gtcgcgagta gcttggcact ggggttgctt ttgcghygtc 540
gtgactggga aaaccetgge gttacceaac ttaatcgcet tgcagcacat cececttteg 600
ccagctggcg taatagcgaa gaggcccgca ccgatcgccc ttcccaacag ttgcgcagct 660
gaatggcgaa tggcgctttg cctggcttcc ggcaccagaa gcggtgccgg aaagctggct 720
ggagtgcgat cttcctgagg ccgatactgt cgtcaagccg aattctgcag atatccatca 780
cactggcggc cgctcgagca tgcatctaga gggccaattc gccctatagt gagtcgtatt 840
```

Constitution of the Section of Late Charle i - 1, 30 To speak the second of the sec



VARIABLE LOCATION SUMMARY
PATENT APPLICATION: US/10/014,099E

DATE: 04/03/2003 TIME: 14:43:11

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF4\04032003\J014099E.raw

Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing. Use of <220> to <223> is MANDATORY if n's or Xaa's are present. in <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:19; N Pos. 536

VERIFICATION SUMMARY

DATE: 04/03/2003 PATENT APPLICATION: US/10/014,099E TIME: 14:43:11

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF4\04032003\J014099E.raw

L:15 M:270 C: Current Application Number differs, Replaced Application Number L:16 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:933 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:19 L:933 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:19 L:933 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:480 L:1408 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:23 \cdot L:1411 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:23L:3320 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:65 L:3323 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:65 L:3528 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:67 L:3531 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:67 L:3731 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:69 L:3734 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:69